

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Mark E. Palm, et al.  
Serial No.: 10/671,370  
Conf. No.: 1859  
Filed: 09/25/2003  
For: DISHWASHER WITH KINETIC  
ENERGY WATER DISTRIBUTION  
SYSTEM  
Art Unit: 1792  
Examiner: Joseph L. Perrin .

APPELLANTS' BRIEF ON APPEAL UNDER 37 C.F.R. § 1.192

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TABLE OF CONTENTS

I. REAL PARTY IN INTEREST .....	4
II. RELATED APPEALS AND INTERFERENCES .....	4
III. STATUS OF CLAIMS.....	4
IV. STATUS OF AMENDMENTS .....	4
V. SUMMARY OF CLAIMED SUBJECT MATTER.....	5
VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL.....	6
VII. ARGUMENT.....	6
A. Claims 16 is not unpatentable over EP '720 in view of FR '909 .....	6
(1) The scope and content of the Prior Art.....	7
(2) The differences between the prior art and the claims at issue .....	11
(3) The level of ordinary skill in the pertinent Art.....	15
(4) Showings of teachings, suggestions, or motivations to combine the prior art to meet the claimed subject matter are absent.....	15
VIII. CONCLUSION .....	17
IX. CLAIMS APPENDIX.....	18
X. EVIDENCE APPENDIX .....	23
XI. RELATED PROCEEDINGS APPENDIX .....	24

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Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
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Dear Sir:

This Appeal Brief is filed pursuant to 37 C.F.R. § 41.37 in support of Appellants' Notice of Appeal dated February 8, 2008 from the Final Rejection dated November 27, 2007, of claims 16-27. Each of the topics required by 37 C.F.R. § 41.37 is presented herein with appropriate labels.

**I. REAL PARTY IN INTEREST**

The real party in interest in this application is Whirlpool Corporation, 2000 North M-63, MD 2200, Benton Harbor, MI 49022-2692. An assignment of all rights in the present application to Maytag Corporation, a wholly-owned subsidiary of Whirlpool was executed by the inventors and recorded in the U.S. Patent and Trademark Office at Reel 014219 Frame 0034.

**II. RELATED APPEALS AND INTERFERENCES**

There are no other appeals or interferences related to this application of which Appellants, Appellants' legal representatives, or Assignee are aware.

**III. STATUS OF CLAIMS**

Claims 16-27 are pending. Claims 16-27 stand finally rejected. No claims are withdrawn.

**IV. STATUS OF AMENDMENTS**

All amendments have been entered. No amendments or responses have been filed after the November 27, 2007 Final Action.

### **V. SUMMARY OF CLAIMED SUBJECT MATTER**

Referring to independent claim 16, a water distribution system is provided for a dishwasher 10 having a washing chamber 22 defined by opposite side walls 12, a bottom wall 14, a top wall 16, 43, a back wall 18, 48, and a door 20. The water distribution system includes a disk 28 having an upward facing surface, a downward facing surface and an outer peripheral edge, the disk 28, 50 being mounted on the top wall 16 for rotation about a vertical axis, the disk having a plurality of vanes 30, 56 extending vertically from the upward facing surface toward the top wall and horizontally from about the axis of rotation to about the peripheral edge, the plurality of vanes 30, 56 forming a plurality of openings along the peripheral edge of the disk 28, 50. The water distribution system also includes a water nozzle 26, 46 positioned at a distance greater than a radius of the disk 28 from the axis of rotation of the disk 28, 50 on one of the back wall 18, 48 side walls 12, or top wall 16, 43 the water nozzle 26 configured and arranged to project a single water jet substantially horizontally 32, 58 and with linear kinetic energy along a line lying in a plane, the single water jet being directed by the nozzle 26 generally radially inwardly towards the axis of rotation of the disk 28 into the plurality of openings to rotate the disk 28 and thereby redirect the water radially outwardly horizontally with radial kinetic energy substantially co-planar with the linear kinetic energy of the single water jet, for distribution of the water in the washing chamber 22.

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 16, 19-20, 22, 24 and 26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1232720 (EP '720) in view of FR 1355909 (FR '909).

Claims 17, 23 and 27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over EP '720 in view of FR '909 and further in view of US 6,260,565 (US '260) or US 5,755,244 (US '244).

Claims 18, 21 and 25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over EP '720 in view of FR '909 and further in view of EP 593876 (EP '876).

For purposes of this appeal, all claims stand or fall together, so arguments will be presented with regard only to independent claim 16 and the EP '720 and FR '909 references. Independent claims 20 and 24 contain the same limitations discussed below which are not shown nor suggested by the cited prior art.

## **VII. ARGUMENT**

### **A. Claim 16 is not unpatentable over EP '720 in view of FR '909**

To establish a prima facie case of obviousness, several criteria must be met. Under *Graham v. John Deere*, 383 U.S. 1 (1966), it is necessary to 1) determine the scope and content of the prior art; 2) ascertain the differences between the prior art and the claims at issue; 3) resolve the level of ordinary skill in the pertinent art; and 4) evaluate evidence of secondary consideration. Additionally, the obviousness evaluation will be informed by

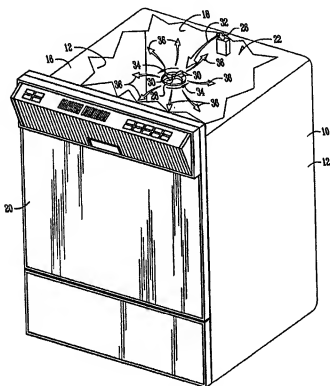
a showing of teaching, suggestion, or motivation that would lead a person of ordinary skill in the art to combine the prior art to meet the claimed subject matter, although a rigid application of this showing is not required. The obviousness analysis must be explicit, and it is necessary to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the prior art elements in the manner claimed. *KSR Int'l Co. v. Teleflex, Inc.*, 82 U.S.P.Q 2d 1385 (2007).

As will be discussed below, these criteria have not been met in the case of the asserted rejection, and the rejection must fail.

**(1) The scope and content of the Prior Art**

The present invention relates to a water distribution system for a dishwasher comprising a disk being mounted on the top wall for rotation about a vertical axis. The examiner concedes that the present invention is novel, but rejected claim 16 on the basis of a combination of EP 1232720 (EP '720) in view of FR 1355909 (FR '909).

Claim 16 also defines a water nozzle positioned at a distance greater than a radius of the disk from the axis of rotation of the disk on one of the back walls, sidewall, or top wall. This is shown in the embodiment of FIG. 2 where nozzle 26 is spaced away from the disk 28.



*Fig. 2*

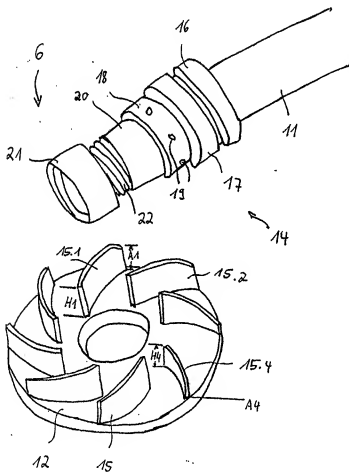
The Examiner acknowledges that EP '720 does not disclose such a structural arrangement. EP '720 discloses an arrangement where the water is dispensed in a plurality of jets through nozzles 19 in a water conduit 11 to engage upstanding deflector walls 15 on a disk 12 which is rotatably mounted on the conduit. The water jets emanate



from near the center of the disk and are directed radially outwardly from the conduit.

Thus, the water nozzles are positioned at a distance less than a radius of the disk from the axis of rotation of the disk, the opposite of the claimed structural arrangement.

Fig. 2



The Examiner has pointed to FR '909 for the teaching of separating a water nozzle and a sprayed deflecting structure to redirect water for distribution in a washing chamber. The Examiner also states that FR '909 teaches that it is known to position the nozzle on a

sidewall adjacent the top wall.

The arrangement taught by FR '909 is to direct a fan shaped spray, as indicated by multiple arrows 6 in FIG. 2, towards a deflector 10 which rotates about a horizontal axis. There is no disclosure regarding whether the deflector 10 is mounted to the rear wall, the sidewalls, or the top wall. Thus, the FR '909 reference teaches away from one requirement of the claim (rotation about a vertical axis), is silent about a second (mounting the rotating disk on the top wall) and only teaches a third requirement (spacing the nozzle away from the rotating disk).

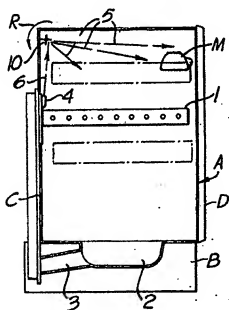
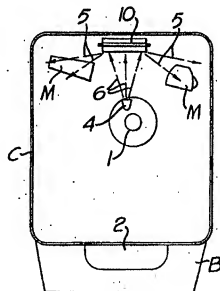


FIG. 1.

FIG. 2.



**(2) The differences between the prior art and the claims at issue.**

In addition to the differences discussed above, claim 16 further defines that the water nozzle is configured and arranged to project a single water jet substantially horizontally and with linear kinetic energy along a line lying in a plane. In contrast, EP '720 teaches to provide a plurality of water jets radially outwardly through nozzle openings 19 from within the center (axis of rotation) of the disk. Also in contrast, FR '909 teaches to provide a water nozzle configured and arranged to project a water fan substantially vertically and with kinetic energy spread out in a plane, rather than linearly along a line. Therefore, neither reference teaches this structural requirement of the claim.

The Examiner has not addressed this failing of the prior art, that is, that none of the prior art teaches or suggest the use of a single water jet being sufficient to provide adequate water distribution in a dishwasher. EP '720 requires the use of multiple water jets directed in multiple directions against the rotating disk, while the FR '909 reference requires the use of a wide fan shape directed against a paddle wheel rather than a disk. It is not sufficient to merely make an unsupported conclusion that a multiple jet can be replaced with a single jet, or that a broad fan can be replaced with a single jet, and yet the Examiner has not even made such an assertion. Since the point of all of the water distribution systems in the prior art is to provide a wide and broad distribution of water throughout the interior of the dishwasher washing cavity, it would not be sufficient to state that it would be expected, or common sense, or that there would be a reasonable

expectation of success, to replace a multiple jetted spray device, or a wide fan spray with a single water jet nozzle to achieve the desired wide and broad distribution of water throughout the interior of the washing cavity. In fact, it goes directly against common sense, when trying to achieve wide and broad distribution of water to replace a multiple jetted spray device, or a wide fan spray, with a single water jet nozzle. The Examiner should be required to provide a specific teaching of the single water jet arrangement, rather than simply a conclusionary statement that it would be obvious, expected, or common sense.

Claim 16 further defines that the single water jet is directed by the nozzle generally radially inwardly toward the axis of rotation of the disk.

EP '720 teaches exactly the opposite, that is, to provide multiple water jets directed by the nozzle radially outwardly. FR '909 does not teach the use of a single water jet, but rather a water fan and being directed towards a paddle wheel, not a disk. Thus, neither reference teaches this structural requirement of the claim.

Claim 16 further defines that the single water jet is redirected radially outwardly horizontally with radial kinetic energy substantially co-planar with the linear kinetic energy of the single water jet. EP '720 does not redirect the energy from radially inwardly to radially outwardly. In EP '270, the water is always directed outwardly, however, the disk may change the angle of the direction of the outward water jets to some degree, but not in the sense of redirecting the direction from inward to outward.

As seen in FIGS. 1 and 2, the re-directed water in FR '909 is not even distributed in a single plane, but rather in a number of directions, indicated by arrows 5 in both figures, none of which appear to lie in the same plane as the water being directed toward the deflector. Further, FR '909 does not teach the provision of linear kinetic energy of a single water jet. Thus, this structural requirement of the claims is not disclosed by either of the references.

Therefore, there are several structural elements set forth in claim 16 that are not shown by either EP '720 or FR '909, so that even a combination of these two references fails to teach or suggest the structure and arrangement of the water distribution system set forth in claim 16, demonstrating the significant difference between the prior art relied on by the examiner and claim 16.

A combination of EP '720 and FR '909 would lead a person of ordinary skill in the art to the conclusion that either multiple jets arranged in different directions or a wide fan spray must be used to provide adequate distribution of water within a washing chamber, even with the use of a rotating or spinning distributor. The art fails to demonstrate, or even suggest, that an adequate distribution of water within a washing chamber could be achieved with the use of a single linearly directed water jet spaced away from the rotating disk. Each of the other references cited by the Examiner, including DE 1183214 and EP 0593876, utilize multiple spray jets to achieve an adequate distribution of water within a washing chamber. Given the state of the art, there would not be a reasonable expectation

of success in utilizing a single linearly directed jet of water against a water distribution disk to provide an adequate distribution of water within the washing chamber.

Presented with the art cited by the Examiner, common sense would lead one of ordinary skill in the art to conclude that multiple spray jets, or at least a wide fan shaped spray, must be used with a rotating distributing disk if adequate water distribution is to be achieved in a wash chamber. Further, none of the references teach or suggest that a linear radially inwardly directed single water jet with linear kinetic energy directed along a line lying in a plane could be redirected so that the kinetic energy would be reversed to a radial outward direction, substantially co-planar with the linear kinetic energy from the single water jet. Such a teaching is entirely lacking in the cited references.

In EP '720, multiple radially outwardly directed water jets, with radially outwardly directed kinetic energies are merely redirected into other radially outwardly directed water flows with radially outwardly directed kinetic energies. FR '909 discloses a fan of water directed toward the rotating deflector in which the deflected water and kinetic energy is dispersed throughout a range of different directions none of which appear to be in the same plane as the water fan. Thus, there is no expectation demonstrated in the art that Applicants' successful results would be achieved with the structure as claimed.

It is the Examiner's obligation to come forward with a *prima facie* case of obviousness, MPEP 2142, and the Examiner has not fulfilled this obligation in this case.

"To establish *prima facie* obviousness of a claimed invention, all the claim

limitations must be taught or suggested by the prior art In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1976).” MPEP 2143.03. In this case, several claim limitations, as discussed above, are not taught nor suggested by the prior art, and therefore a *prima facie* case of obviousness has not been presented by the Examiner.

**(3) The level of ordinary skill in the pertinent art.**

The Examiner has not identified or commented on the level of ordinary skill in the pertinent art, as required, but the references relied on by the Examiner demonstrate that the level of skill was to address the water distribution function by using multiple spray jets or a wide spray fan, and in either case, in a different structural arrangement than the single spray jet of the claimed invention.

**(4) Showings of teachings, suggestions, or motivations to combine the prior art to meet the claimed subject matter are absent.**

The two references relied on by the Examiner, EP ‘720 and FR ‘909, each provide a complete solution to the water distribution function, and therefore neither reference includes any suggestion or motivation to combine their teachings. Even so, a combination of the two references would result in either multiple jets arranged in different directions or a wide fan spray to provide adequate distribution of water within a washing chamber, even with the use of a rotating or spinning distributor. Hence, a combination of EP ‘720 and FR ‘909 would not render obvious the structure of claim 16 in which a water nozzle, spaced from the disk, projects a single water jet substantially

horizontally and with linear kinetic energy along a line lying in a plane, the single water jet being directed by the nozzle generally radially inwardly towards the axis of rotation of the disk into the plurality of openings to rotate the disk and thereby redirect the water radially outwardly horizontally with radial kinetic energy substantially co-planar with the linear kinetic energy of the single water jet for distribution of water in the washing chamber. This result is certainly surprising and unexpected in view of the express teachings of EP '720 and FR '909, which both clearly require an effective water distribution system to use multiple water jets or a broad fan spray against a rotating water distributor.



**VII. CONCLUSION**

For each of these reasons, separately and in combination, Appellants respectfully submit that independent claims 16, 20 and 24 and each of their dependent claims are patently distinguishable over the references relied on by the Examiner. Appellants respectfully request that the rejection of claims 16-27 be reversed, with instructions to allow this application.

Respectfully submitted,

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**IX. CLAIMS APPENDIX**

1- 15. (Cancelled)

16. (New) A water distribution system for a dishwasher having a washing chamber defined by opposite side walls, a bottom wall, a top wall, a back wall, and a door, the water distribution system comprising:

a disk having an upward facing surface, a downward facing surface and an outer peripheral edge, the disk being mounted on the top wall for rotation about a vertical axis, the disk having a plurality of vanes extending vertically from the upward facing surface toward the top wall and horizontally from about the axis of rotation to about the peripheral edge, the plurality of vanes forming a plurality of openings along the peripheral edge of the disk; and

a water nozzle positioned at a distance greater than a radius of the disk from the axis of rotation of the disk on one of the back wall, side walls, or top wall, the water nozzle configured and arranged to project a single water jet substantially horizontally and with linear kinetic energy along a line lying in a plane, the single water jet being directed by the nozzle generally radially inwardly towards the axis of rotation of the disk into the plurality of openings to rotate the disk and thereby redirect the water radially outwardly horizontally with radial kinetic energy substantially co-planar with the linear kinetic energy of the single water jet, for distribution of the water in the washing chamber.

17. (New) The water distribution system of claim 16, wherein the bottom wall, back wall and door of the dishwasher comprise a drawer and the top wall comprises a lid.

18. (New) The water distribution system of claim 16 further comprising a second disk with a plurality of vanes mounted on the top wall for rotation about a second vertical axis of rotation and a second water nozzle positioned at a distance greater than a radius of the second disk from the second axis of rotation on one of the top wall or side walls, the second water nozzle configured and arranged to project a single water jet substantially horizontally and with linear kinetic energy directed generally radially inwardly towards the second axis of rotation along a line lying in a plane, the single water jet being directed by the nozzle generally radially inwardly towards the second axis of rotation of the disk and onto the vanes of the second disk to rotate the disk and thereby redirect the water radially outwardly horizontally with radial kinetic energy directed radially outwardly substantially co-planar with the linear kinetic energy of the single water jet, for distribution of the water in the washing chamber.

19. (New) The water distribution system of claim 16, wherein the nozzle is positioned on a side wall comprising a back wall.

20. (New) A dishwasher comprising:  
a washing chamber defined by side walls, a bottom wall, and a top wall;  
a disk mounted on the top wall for rotation about a vertical axis of rotation, the disk having a plurality of vanes; and  
a water nozzle positioned at a distance greater than a radius of the disk from the axis of rotation of the disk on one of the top wall or side walls, the water nozzle configured and arranged to project a single water jet substantially horizontally and with linear kinetic energy directed generally radially inwardly towards the axis of rotation along a line lying in a plane, the single water jet being directed by the nozzle generally radially inwardly towards the axis of rotation of the disk and onto the vanes of the disk to

rotate the disk and thereby redirect the water radially outwardly horizontally with radial kinetic energy directed radially outwardly substantially co-planar with the linear kinetic energy of the single water jet, for distribution of the water in the washing chamber.

21. (New) The dishwasher of claim 20 further comprising a second disk with a plurality of vanes mounted on the top wall for rotation about a second vertical axis of rotation and a second water nozzle positioned at a distance greater than a radius of the second disk from the second axis of rotation on one of the top wall or side walls, the second water nozzle configured and arranged to project a single water jet substantially horizontally and with linear kinetic energy directed generally radially inwardly towards the second axis of rotation along a line lying in a plane, the single water jet being directed by the nozzle generally radially inwardly towards the second axis of rotation of the disk and onto the vanes of the second disk to rotate the disk and thereby redirect the water radially outwardly horizontally with radial kinetic energy directed radially outwardly substantially co-planar with the linear kinetic energy of the single water jet, for distribution of the water in the washing chamber.

22. (New) The dishwasher of claim 20, wherein the nozzle is positioned on a side wall comprising a back wall.

23. (New) The water distribution system according to claim 20, wherein the bottom wall, back wall and door of the dishwasher comprise a drawer and the top wall comprises a lid.

24. (New) A dishwasher comprising:

- a washing chamber defined by side walls, a bottom wall, and a top wall;
- at least one rack positioned in the washing chamber positioned for washing objects in the rack;
- a disk mounted on the top wall within the washing chamber and above the rack for rotation about a vertical axis of rotation, the disk having a plurality of vanes, each vane having a vertical extent and substantially greater horizontal extent, with the vertical extent remaining vertical as the disk rotates about the axis of rotation; and
- a water nozzle positioned at a distance greater than a radius of the disk from the axis of rotation of the disk on one of the top wall or side walls, the water nozzle configured and arranged to project a single water jet substantially horizontally and with linear kinetic energy directed generally radially inwardly towards the axis of rotation along a line lying in a plane, the single water jet being directed by the nozzle generally radially inwardly towards the axis of rotation of the disk and onto the vanes of the disk to rotate the disk and thereby redirect the water radially outwardly horizontally with radial kinetic energy directed radially outwardly substantially co-planar with the linear kinetic energy of the single water jet, for distribution of the water in the washing chamber.

25. (New) The dishwasher of claim 24 further comprising a second disk with a plurality of vanes mounted on the top wall for rotation about a second vertical axis of rotation and a second water nozzle positioned at a distance greater than a radius of the second disk from the second axis of rotation on one of the top wall or side walls, the second water nozzle configured and arranged to project a single water jet substantially horizontally and with linear kinetic energy directed generally radially inwardly towards the second axis of rotation along a line lying in a plane, the single water jet being directed by the nozzle generally radially inwardly towards the second axis of rotation of the disk

and onto the vanes of the second disk to rotate the disk and thereby redirect the water radially outwardly horizontally with radial kinetic energy directed radially outwardly substantially co-planar with the linear kinetic energy of the single water jet, for distribution of the water in the washing chamber.

26.    **(New)**       The dishwasher of claim 24, wherein the nozzle is positioned on a side wall comprising a back wall.

27.    **(New)**       The dishwasher of claim 24, wherein the bottom wall, back wall and door of the dishwasher comprise a drawer and the top wall comprises a lid.

**X. EVIDENCE APPENDIX**

None.

**XI. RELATED PROCEEDINGS APPENDIX**

None.